

APR 05 1975
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 MAY 22 1975
 REPRODUCTION
 ARCHITECTURE - 2425

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
CRA-61-04.98
 CRAWFORD COUNTY
 JACKSON TOWNSHIP
BRIDGE REPLACEMENT

OHIO
 FHWA REGION 5
 CRAWFORD COUNTY
 CRA-61-04.98
 STRUCTURE CRA-61-0687
 Plan No. BR-14-75

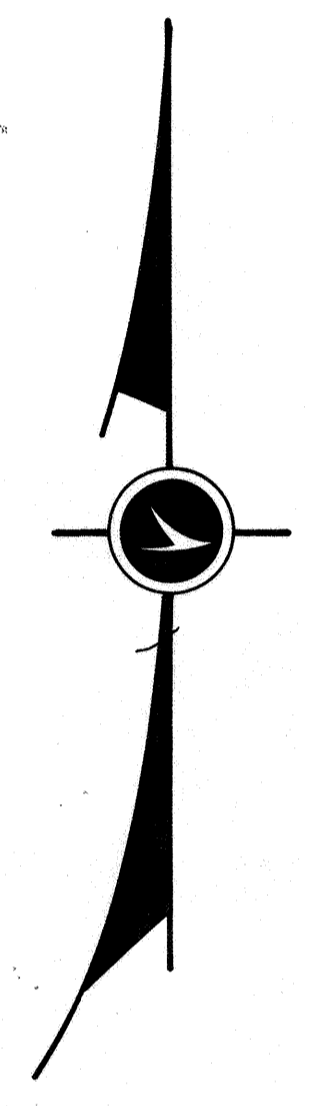
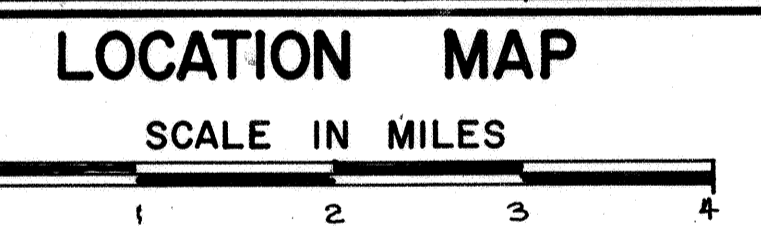
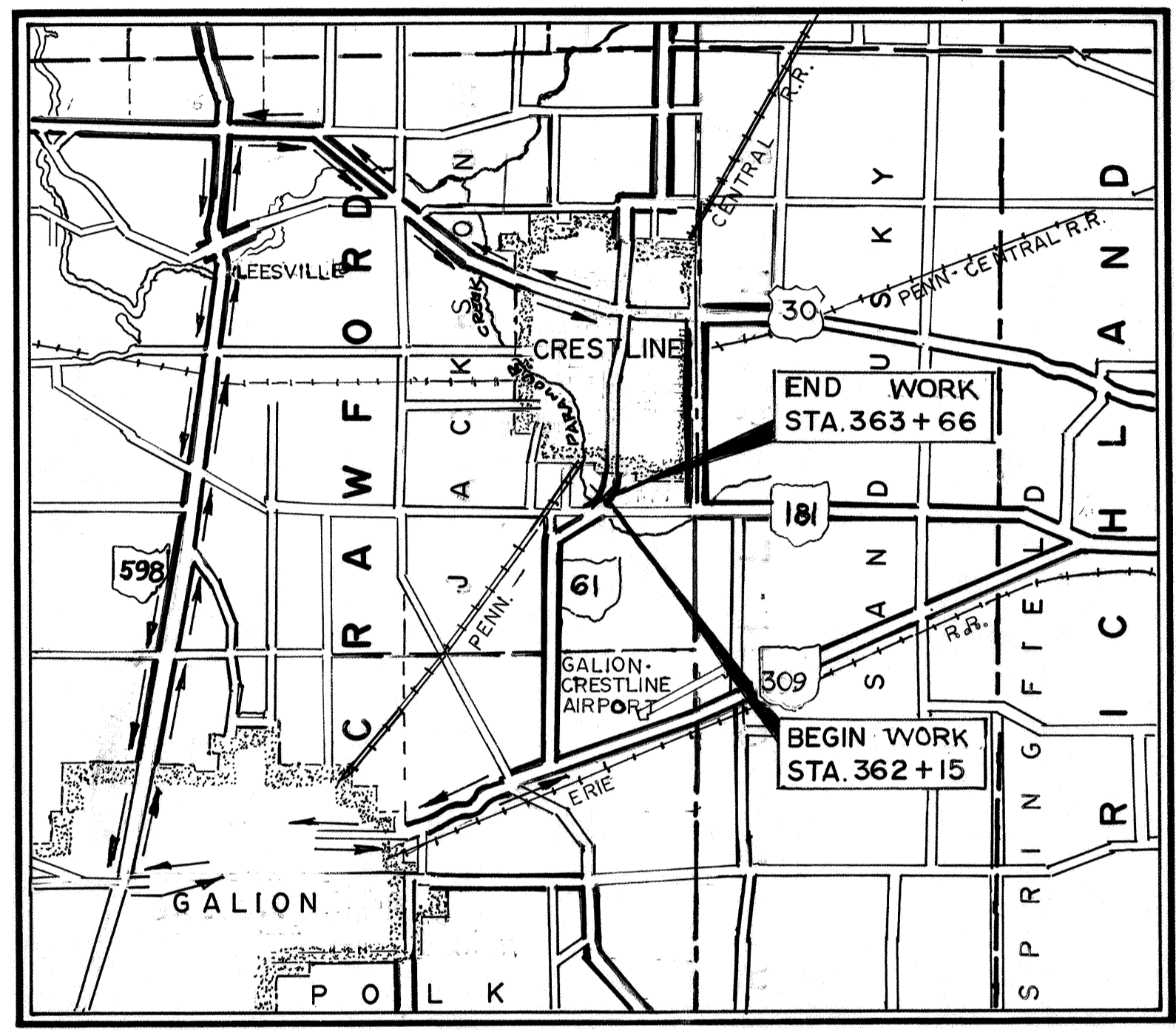
1975 SPECIFICATIONS
 The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.
 The right of way for this improvement will be provided by the State of Ohio.
 I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans.

CONVENTIONAL SIGNS

County Line	-----	Limited Access (only)	----- LA
Township Line	-----	Right of Way (only)	----- RW
Section Line	-----	Limited Access & Right of Way	----- LA & RW
Corporation Line	----- or -----	Existing Right of Way	-----
Fence Line (existing)	-x-x- (proposed) -x-x-	Property Line	--- (in existing fence) ---
Center Line	352 ----- 353	Railroad	----- or -----
Trees, Stumps	(to be removed)	Guardrail (existing)	--- (proposed) ---
Utility Poles: Telephone, Power, Light	φ, φ, φ		

INDEX OF SHEETS

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REINFORCING STEEL LIST	-----	3
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LINE DATA

BEGIN	STA. 362 + 15
END	STA. 363 + 66
GROSS LENGTH	151.00 LIN. FT.
NO ADDITIONS OR DEDUCTIONS	
NET LENGTH	151.00 LIN. FT. OR 0.028 MILES

Portion to be improved: _____
 State & Federal Routes _____
 Other Roads _____

SCALES

Plan: _____
 Profile: _____ Horizontal _____, Vertical _____
 Cross Section: Horizontal _____, Vertical _____

SUPPLEMENTAL SPECIFICATIONS

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

MC-3	6-1-73				
AS-1-72	6-30-72				
PSBD-1-71	9-1-71				
DBR-2-73	4-10-73				
GR-2B	11-9-71				
BP-5	6-1-72				
GR-2A	1-1-71				

Approved: *H. S. Reader*
 Date 6-16-75 District Deputy Director of Transportation

Approved: *Robert B. Pfeiffer*
 Date 6-26-75 Engineer of Bridges

Approved: *R. L. Zook*
 Date 6-30-75 Engineer of Maintenance

Approved: *Thomas W. Major*
 Date 7-7-75 Chief Engineer, Operations

Approved: *John D. Dickman*
 Date 7-1-75 Chief Engineer, Construction

Approved: *Howard E. Nolan*
 Date 6-30-75 Assist. Dep. Director, Program Development

Approved: *R. E. Lathin*
 Date 7-2-75 Chief Engineer, Design

Approved: *David H. Miller*
 Date 7-2-75 Assist. Director, Dept. of Transportation

Approved: *Richard B. Johnson*
 Date 7-8-75 Director, Department of Transportation

Project: _____
 Date of Letting _____ 19____, Contract No. _____
 LD0300 Rev. 11-21-73

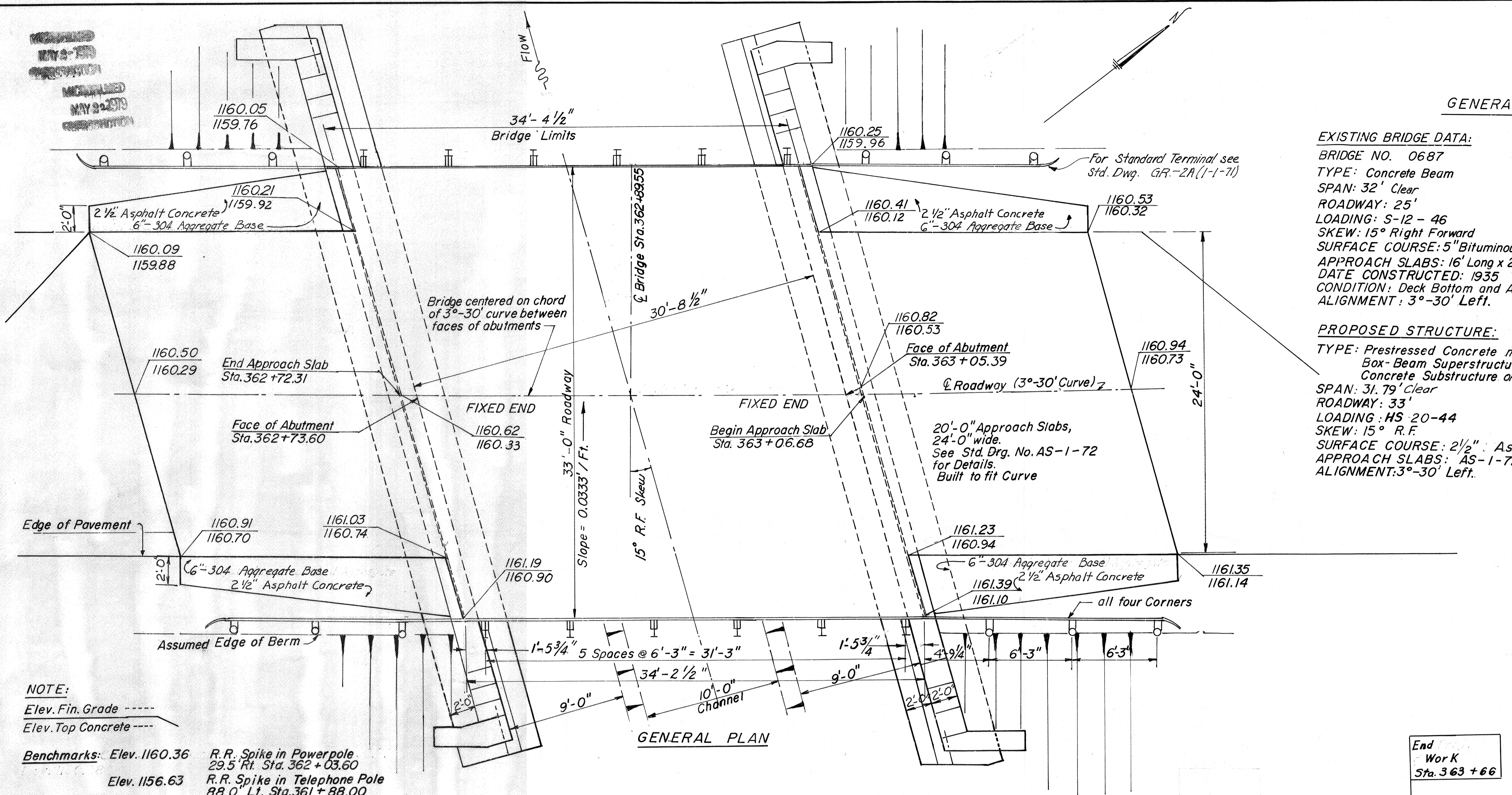
Plan Prepared By: _____
 SEAL

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED: _____
 DIVISION ENGINEER DATE

GENERAL NOTES

EXISTING BRIDGE DATA:
 BRIDGE NO. 0687
 TYPE: Concrete Beam
 SPAN: 32' Clear
 ROADWAY: 25'
 LOADING: S-12-46
 SKEW: 15° Right Forward
 SURFACE COURSE: 5" Bituminous (1960)
 APPROACH SLABS: 16' Long x 20' Wide x 11"
 DATE CONSTRUCTED: 1935
 CONDITION: Deck Bottom and Abutment Tops disintegrated
 ALIGNMENT: 3°-30' Left.

PROPOSED STRUCTURE:
 TYPE: Prestressed Concrete non-composite
 Box-Beam Superstructure with Reinforced
 Concrete Substructure on existing footings
 SPAN: 31.79' Clear
 ROADWAY: 33'
 LOADING: HS 20-44
 SKEW: 15° R.F.
 SURFACE COURSE: 2 1/2" Asphalt Concrete
 APPROACH SLABS: AS-1-72 (20'-0" long)
 ALIGNMENT: 3°-30' Left.

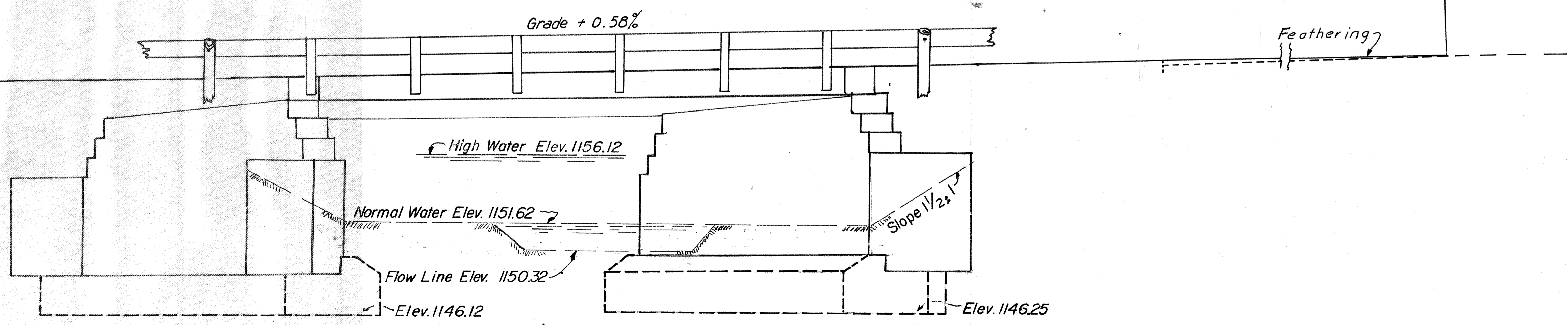


NOTE:
 Elev. Fin. Grade -----
 Elev. Top Concrete -----

Benchmarks: Elev. 1160.36 R.R. Spike in Powerpole 29.5' Rt. Sta. 362+03.60
 Elev. 1156.63 R.R. Spike in Telephone Pole 88.0' Lt. Sta. 361+88.00

Begin Work Sta. 362+15

End Work Sta. 363+66



GENERAL ELEVATION

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION DISTRICT 3							2/6
GENERAL PLAN, ELEVATION							
GENERAL NOTES							
BRIDGE NO. CRA - 61-06 87							
OVER PARAMOUR CREEK							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
T.F.F.	H.H.	H.H.		W.J.J.	6-26-75		

CRAWFORD COUNTY
CRA-61-04.98

GENERAL NOTES

VERIFICATION:

The contractor shall verify all dimensions at the site.

REMOVAL OF EXISTING SUPERSTRUCTURE AND PORTIONS OF SUBSTRUCTURE:

When no longer needed to maintain traffic the existing deck with appurtenances and the abutment walls shall be removed. The method of removal shall have approval of the Engineer prior to starting work. Proper care shall be exercised when removing the abutments so that the reinforcing steel protruding from the footers can be used to tie the new reinforcing steel.

CONCRETE NONCOMPOSITE BOX BEAM:

Prestressed box beams shall be B-17-36 noncomposite box beams having a span length of 33'-2 1/8" and an out to out length of 34'-2 1/2".

DESIGN LOADING:

MS 20-44 and the Interstate Alternate. Superimposed Deadload 175 #/Lin. Ft.

CONCRETE CLASS C Unit stress 1333 p.s.i., substructure

CONCRETE STRESSES (Prestressed Concrete)

Minimum concrete strength at 28 days $f_c' = 5500$ p.s.i.

Minimum concrete strength at time of initial prestress $f_{ci}' = 4000$ p.s.i.

Unit stress 2200 p.s.i. compression, 444 p.s.i. tension

PRESTRESSING STRANDS:

1/2" Dia. 270# seven-wire, uncoated stress-relieved strand. $A_s = .154$ Sq. In.

Initial Tension = 28,900 lbs. per strand

BEAM FABRICATION:

Beams shall be so fabricated as to include provisions for lifting into place. Outside beams shall be fabricated with a 1" diameter half round drip groove, 3" from the outside edge and including bolts, studs and sleeves located and spaced as per plan drawing. Unit price bid for prestressed concrete beams shall include traverse tie bars, anchor dowels, bolts, studs and nuts for guardrail and mortaring of shear keys. Shear key surfaces shall be roughed by application of an approved retarder to the forms prior to casting the beams or by sandblasting after removing of forms. Diaphragms shall be located at midpoint per details.

CAMBER AND LEVELING COURSE THICKNESS VARIATION:

Calculated camber at time of paving, including allowance for camber growth due to creep, is 1". Calculated deflection due to weight of surface course and railing is negligible. Net final camber of beams is 1". This entire amount is in excess of the required value and shall be compensated for by thickening the 403 leveling course from 1 1/4" at center of span to 2 1/4" at ends of span.

ASPHALT CONCRETE SURFACE COURSE:

Asphalt concrete surface course shall consist of a variable thickness of 403 and a 1 1/4" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1 1/4" uniform thickness. The second course shall be feathered to place the surface parallel to and 1 1/4" below final pavement surface elevation.

GALVANIZED STEEL DRIP STRIP:

Prior to applying deck membrane waterproofing a bent galvanized steel drip strip, 8"x 0.105" shall be installed along the edges of the deck as shown. The strips shall be fastened at 3'-0" o/c maximum with power driven pins or #10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a 3" (minimum) lap shall be used with a fastener through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02. Payment shall be at the contract price bid for Item Special, Sq. Ft. Galvanized Steel Drip Strip, which shall include all material, labor, tools and incidentals necessary to complete this item.

PORUS BACKFILL:

Porus backfill, two(2) feet thick, shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls.

ALL CRANE WORK shall be done from the north end of the bridge because of a utility line near the south end of the bridge and the necessity of maintaining through traffic on the intersecting township road.

ABUTMENT REINFORCING STEEL

MARK	No.	LENGTH	WEIGHT	SHAPE	No. Fixed Abut.	No. Rear Abut.
A 501	8	28'-0"	234	S	4	4
A 502	12	28'-2"	352	"	6	6
A 503	2	27'-0"	56	"	-	2
A 504	2	27'-2"	57	"	-	2
A 505	8	24'-0"	200	"	4	4
A 506	24	23'-0"	576	"	12	12
A 507	4	3'-5"	14	"	2	2
A 508	4	7'-9"	32	"	2	2
A 509	4	7'-7"	32	"	2	2
A 510	4	2'-4"	10	"	2	2
A 511	6	5'-8"	35	"	3	3
A 512	2	5'-2"	11	"	1	1
A 513	8	4'-6"	38	"	4	4
A 514	6	5'-2"	32	BENT	3	3
A 515	2	4'-2"	9	"	1	1
A 516	6	5'-4"	33	"	3	3
A 517	2	4'-4"	9	"	1	1
A 518	2	27'-6"	57	S	2	-
A 519	2	27'-8"	58	"	2	-
A 603	1	7'-5"	11	"	1	-
A 604	1	8'-5"	13	"	1	-
A 605	1	9'-8"	14	"	1	-
A 606	1	10'-8"	16	"	1	-
A 607	6	11'-5"	103	"	2	4
A 608	4	12'-5"	75	"	2	2
A 609	2 Sets of 17	8'-7 1/2" / 9'-7 1/2" in 3/4" increments	464	"	1 Set of 17	1 Set of 17
A 610	4	12'-4"	74	"	2	2
A 611	2 Sets of 13	9'-8 1/2" / 10'-5 1/2" in 3/4" increments	394	"	1 Set of 13	1 Set of 13
A 612	4	11'-4"	68	"	2	2
A 613	2	10'-3"	31	"	2	-
A 614	2	11'-3"	34	"	2	-
A 615	1	7'-7"	11	"	1	-
A 616	2	8'-7"	26	"	1	1
A 617	2	7'-4"	22	"	1	1
A 618	2	8'-4"	25	"	1	1
A 619	1	6'-1"	9	"	1	-
A 620	3	7'-1"	32	"	3	-
A 621	2	6'-3"	19	"	2	-
A 622	8	5'-11"	71	"	6	2
A 623	2	5'-8"	17	"	2	-
A 624	34	3'-0"	153	"	17	17
A 625	1	6'-4"	10	S	-	1
A 626	1	7'-4"	11	"	-	1
A 627	1	7'-6"	11	"	-	1
A 628	1	8'-6"	13	"	-	1
A 629	2	10'-4"	31	"	-	2
A 630	6	7'-3"	65	"	6	-
A 635	1	9'-9"	15	"	-	1
A 636	1	10'-9"	16	"	-	1
A 638	1	9'-7"	14	"	-	1
A 639	6	7'-2"	65	"	-	6
A 640	2	6'-11"	21	"	-	2
A 641	2	5'-2"	16	"	-	2
A 642	6	6'-2"	56	"	-	6
A-801	32	6'-1"	520	BENT	16	16
TOTAL			4391			

GENERAL SUMMARY

ITEM	TOTAL	UNIT	DESCRIPTION
202	71	Sq. Yds.	Pavement removed (Existing Approach Slab)
202	LUMP	LUMP	Superstructure removed
202	LUMP	LUMP	Portions of Substructure removed
203	22	Cu. Yds.	Embankment
403	14	Cu. Yds.	Asphalt Concrete AC-20
404	11	Cu. Yds.	Asphalt Concrete AC-20
512	144	Sq. Yds.	Type D Waterproofing
503	81	Cu. Yds.	Unclassified Excavation
509	4391	Lbs.	Reinforcing Steel
510	12	Ea.	Dowel Holes
511	87	Cu. Yds.	Class C Concrete (Abutments above Footings)
515	11	Ea.	Prestressed Concrete Bridge Members 3'x 34.21'
516	57	Sq. Ft.	1/2" thick x 5" wide Elastomeric Bearing Pads
516	98	Sq. Ft.	1" Preformed Expansion Joint Filler
516	73	Lin. Ft.	Joint Sealer 705.01 or 705.02
517	68.75	Lin. Ft.	Railing (Deep Beam Rail w/ steel tubular backing, Type 2, posts #1 bolts)
606	68.75	Lin. Ft.	Guardrail (Type 5)
518	59	Cu. Yds.	Porous Backfill
611	107	Sq. Yds.	Reinforced Concrete Approach Slab (T=14")
407	22	Gal.	Tack Coat, MS-2, SS-1, SS-1H or RS-1 or RC-250
659	133	Sq. Yds.	Seeding and Mulching
659	0.012	TDN	Commercial Fertilizer (12-12-12)
614	LUMP	LUMP	Maintaining Traffic
619	LUMP	LUMP	Field Office
304	5	Cu. Yds.	Aggregate Base
Special	42	Sq. Ft.	Galvanized Steel Drip Strip

SEEDING:

Quantities for seeding are calculated for the soil areas from the shoulder line out to 30' from E a length of 25' each side of bridge.

FEATHERING 403 AND 404:

This transition from 1 1/4" to 0" shall be made off the limits of the bridge and at the outward limits of the approach slabs. Feathering is figured at the rate 1" in 10 feet.

APPROACH SLAB:

The jacking holes as called for on Std. Dwg. AS-1-72 will not be required. Approach slab top steel shall be 3" clear instead of 2".

AGGREGATE BASE 304:

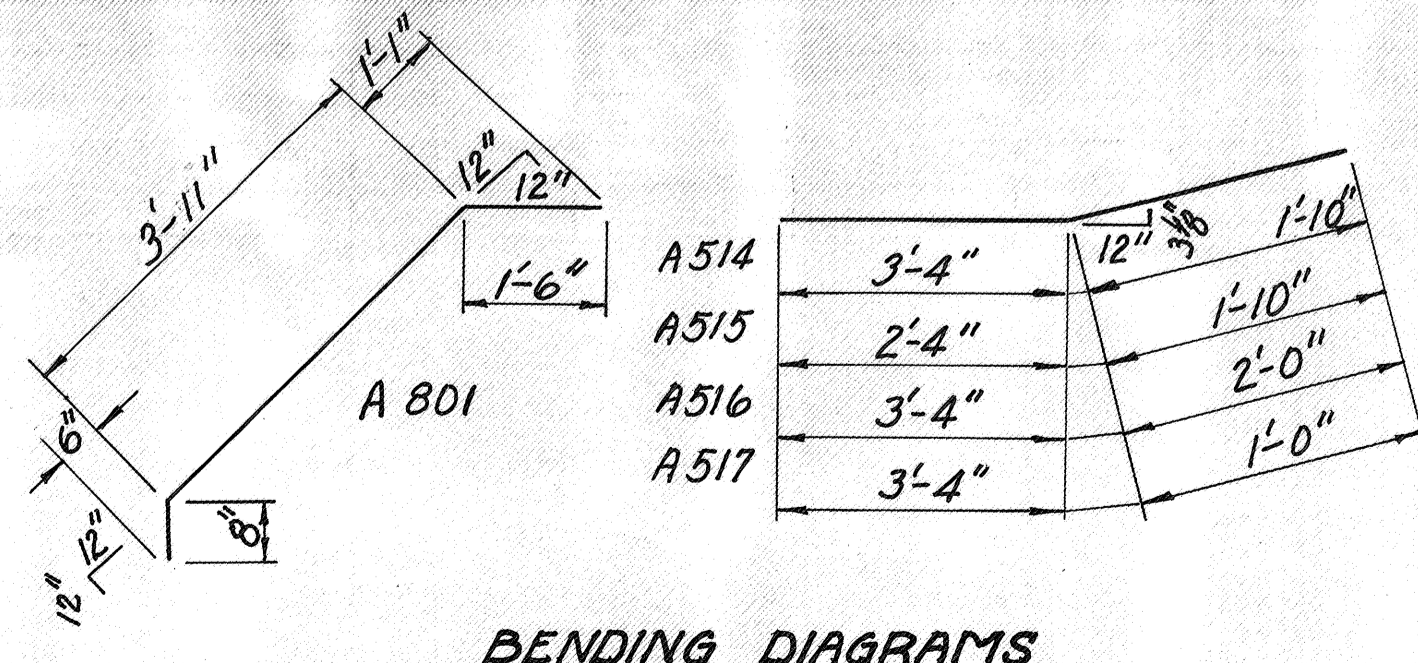
Due to the limited areas involved, the provisions of the first paragraph of Sec. 304.04 will be waived. Both the subgrade and the base material shall be thoroughly compacted to the satisfaction of the Engineer.

TACK COAT 407:

The tack coat operation shall be as determined at a pre-construction conference as per 407.05 and application rates shall not exceed 0.10 Gal. per Sq. Yd.

NOTE:

Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.



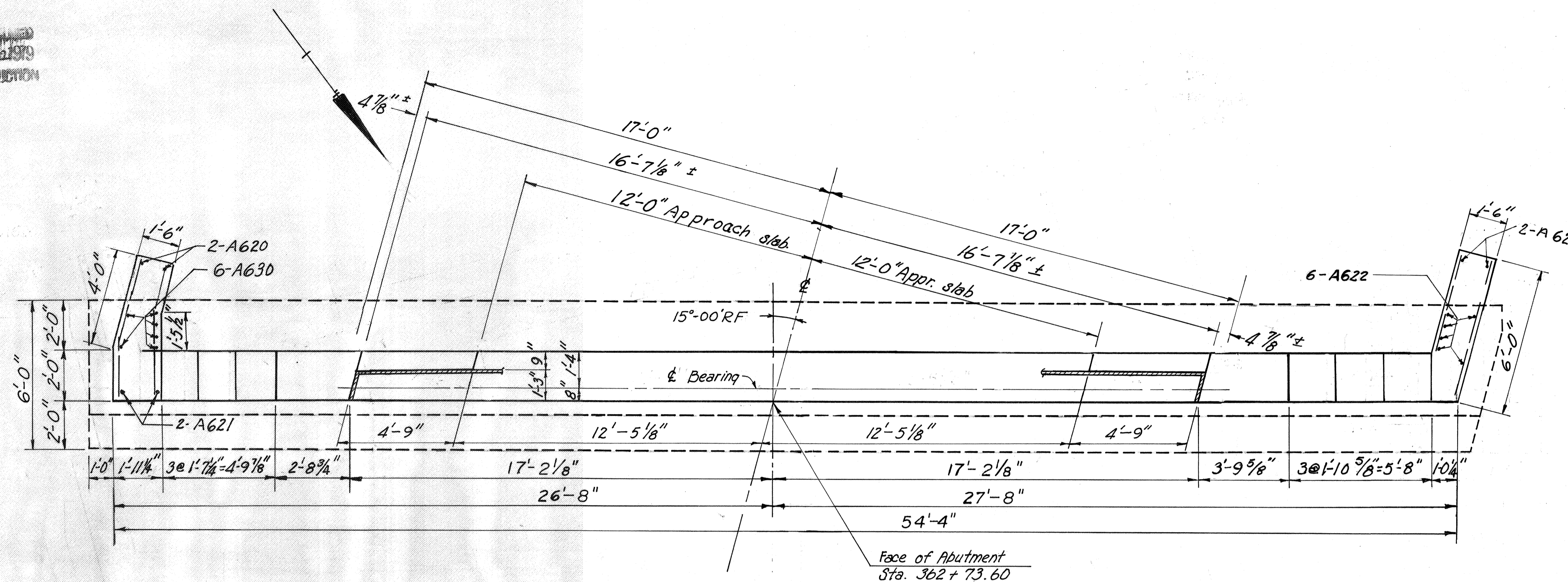
BENDING DIAGRAMS

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION DISTRICT 3						3/6
GENERAL NOTES GENERAL SUMMARY REINFORCING STEEL						
BRIDGE No. CRA-61-0687 OVER PARAMOUR CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.F.F.	A.H.	E.E.		W.J.J.	6-26-75	7-17-75

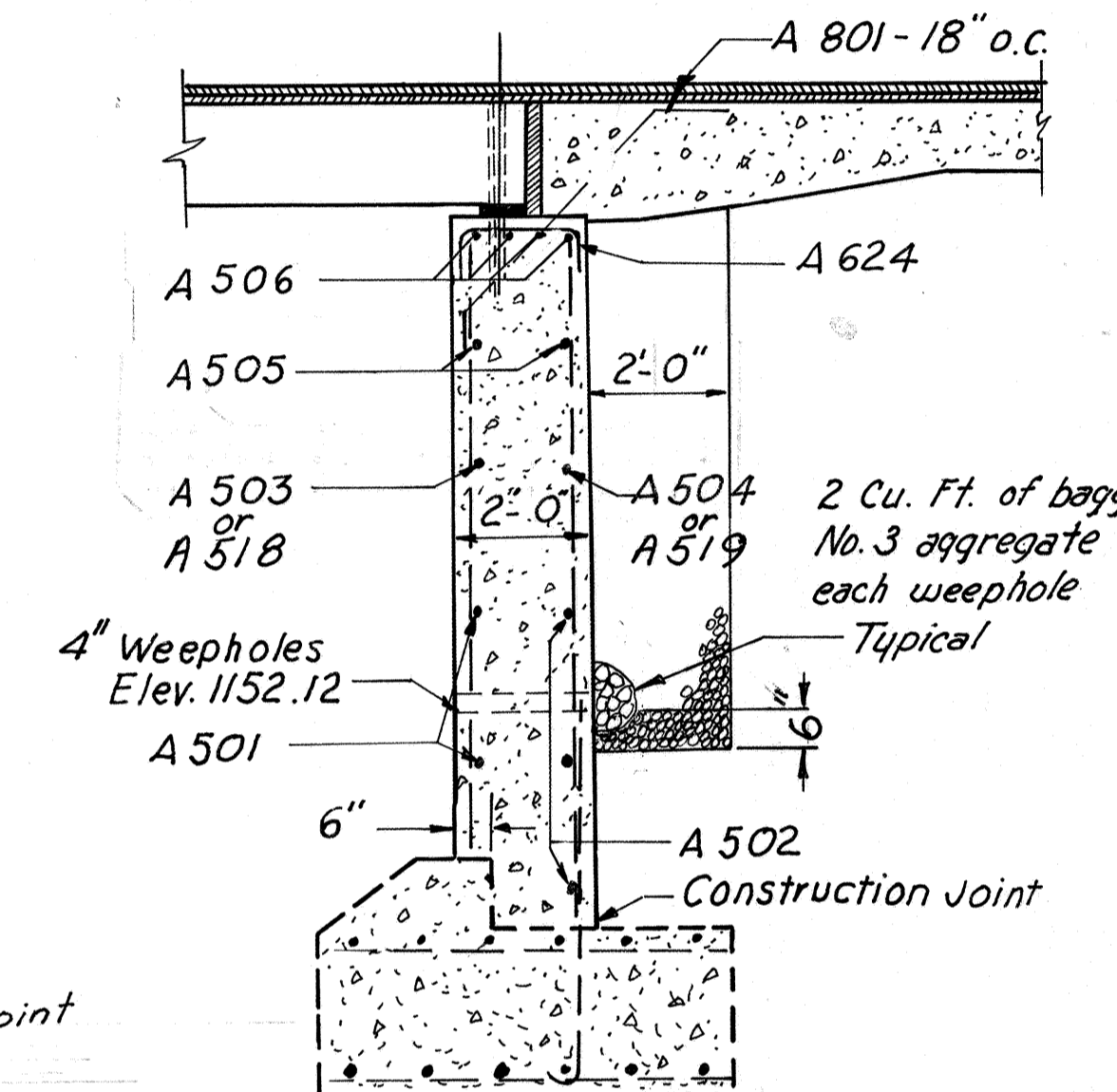
MAINTAINED
MAY 22, 1979
RESTRICTION

FED. RD. DIVISION	STATE	PROJECT	4 6
2	OHIO		

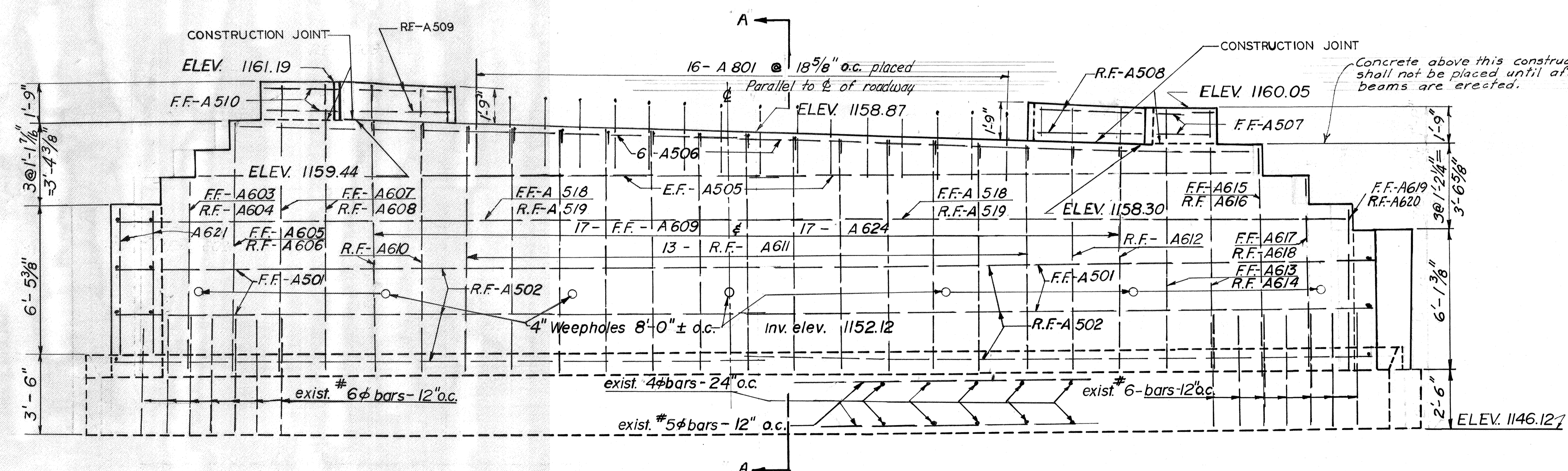
CRAWFORD COUNTY
CRA - 61-04.98



REAR ABUTMENT PLAN



Section A - A



ELEVATION REAR ABUTMENT

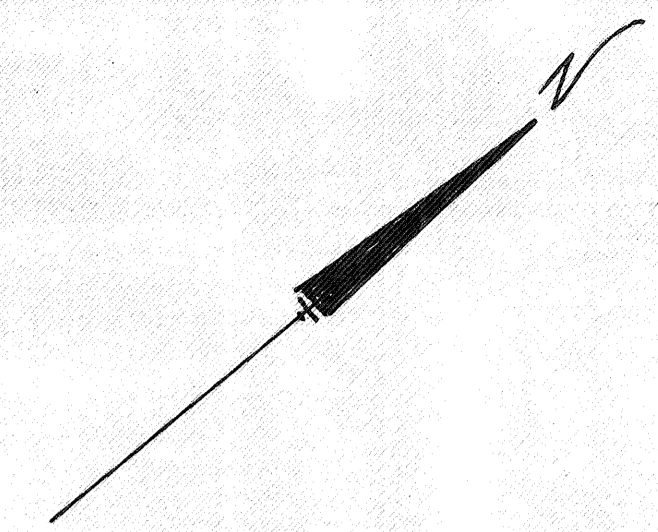
NOTE:
F.F. = Front Face
R.F. = Rear Face
E.F. = Each Face

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF DESIGN AND CONSTRUCTION
DISTRICT 3

REAR ABUTMENT DETAILS
BRIDGE NO. CRA-61-06 87
OVER PARAMOUR CREEK

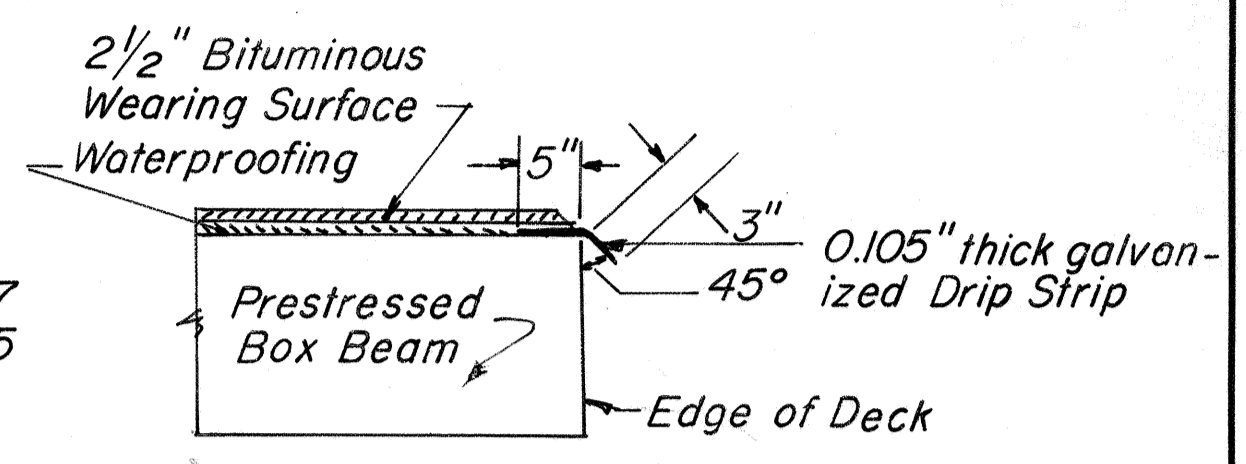
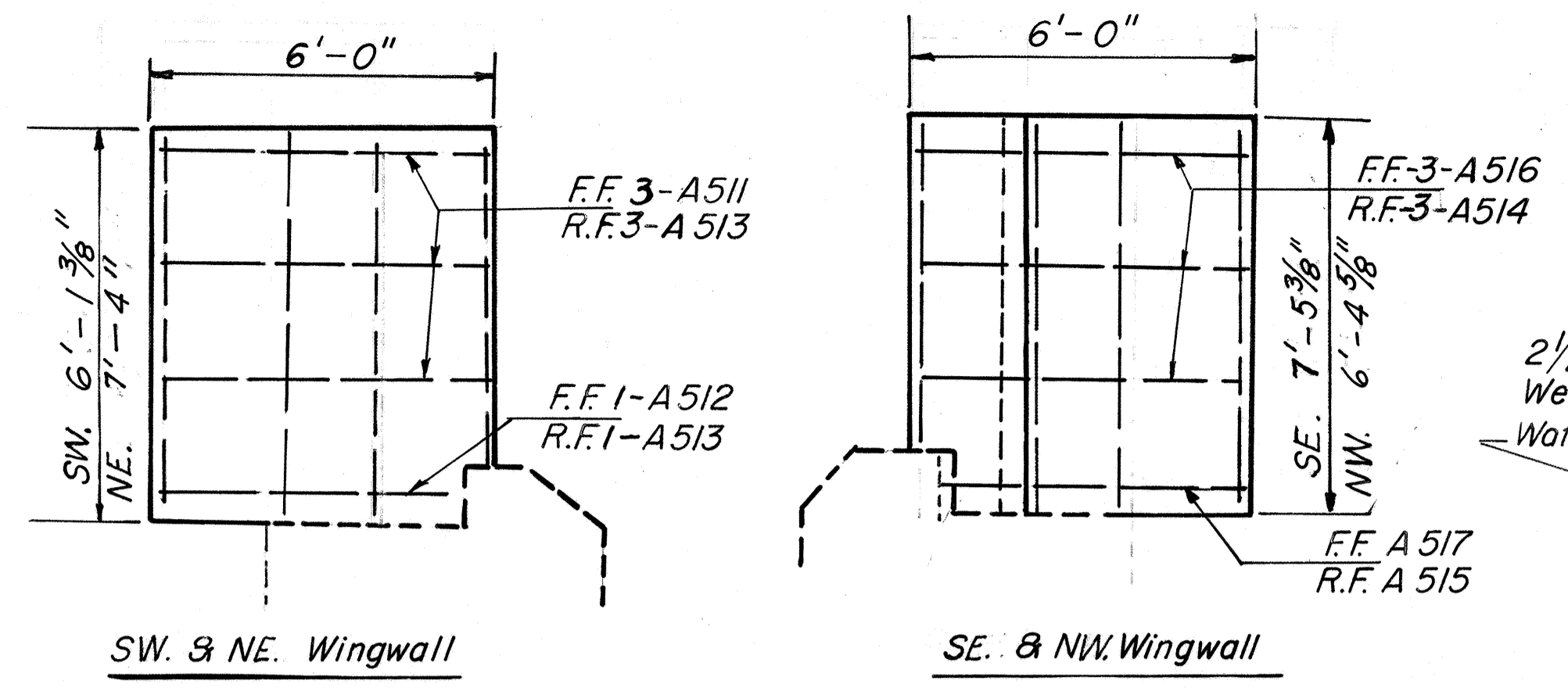
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.P.F.	H.H.	H.H.		W.J.J.	6-26-75	

MAY 22 1978
REPRODUCTION

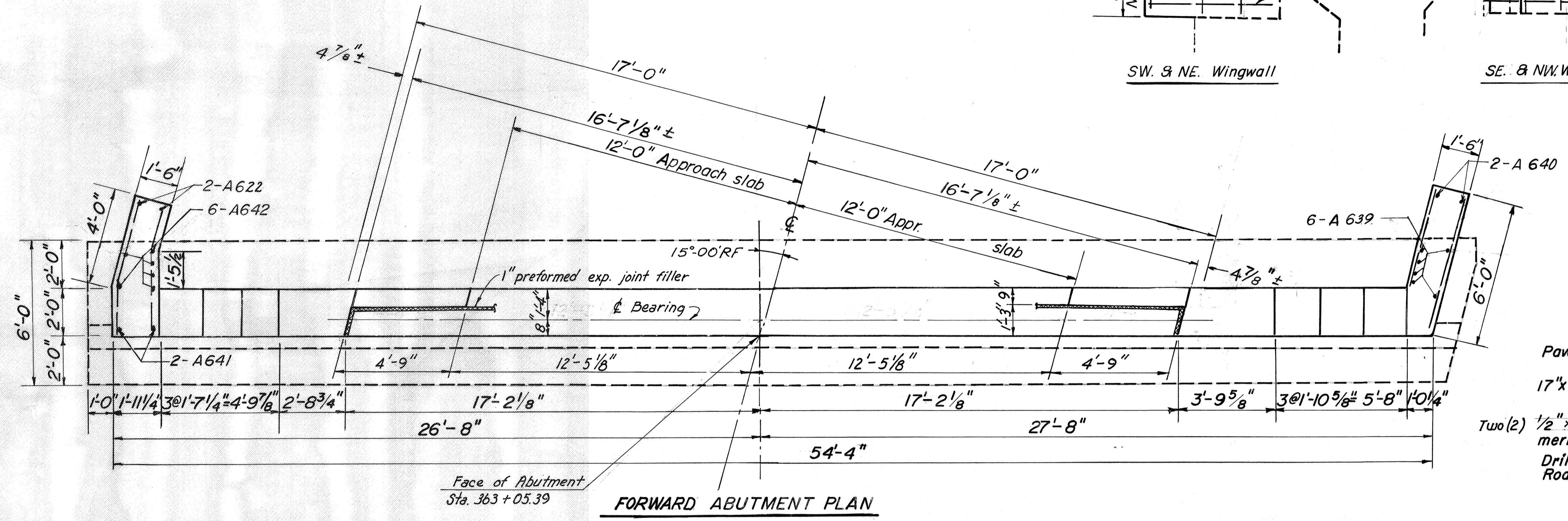


FED. RD. DIVISION	STATE	PROJECT	5 6
2	OHIO		

CRAWFORD COUNTY
CRA-61-04.98

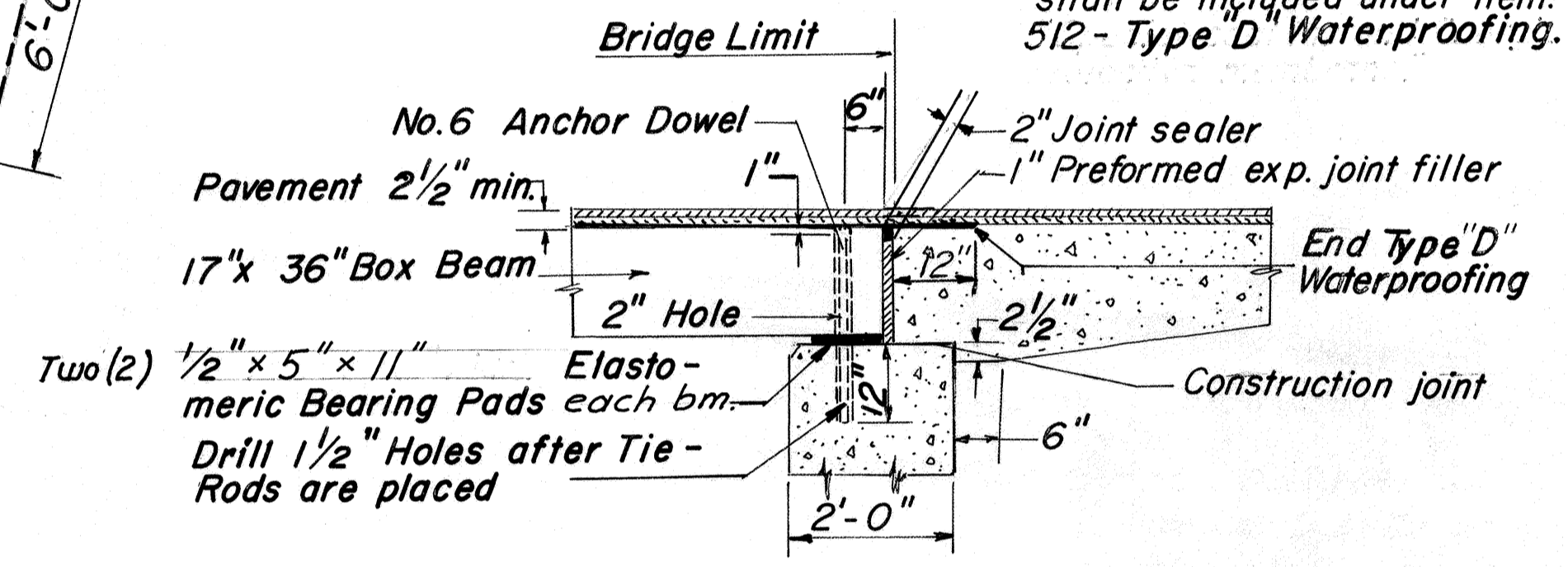


DRIP STRIP DETAIL



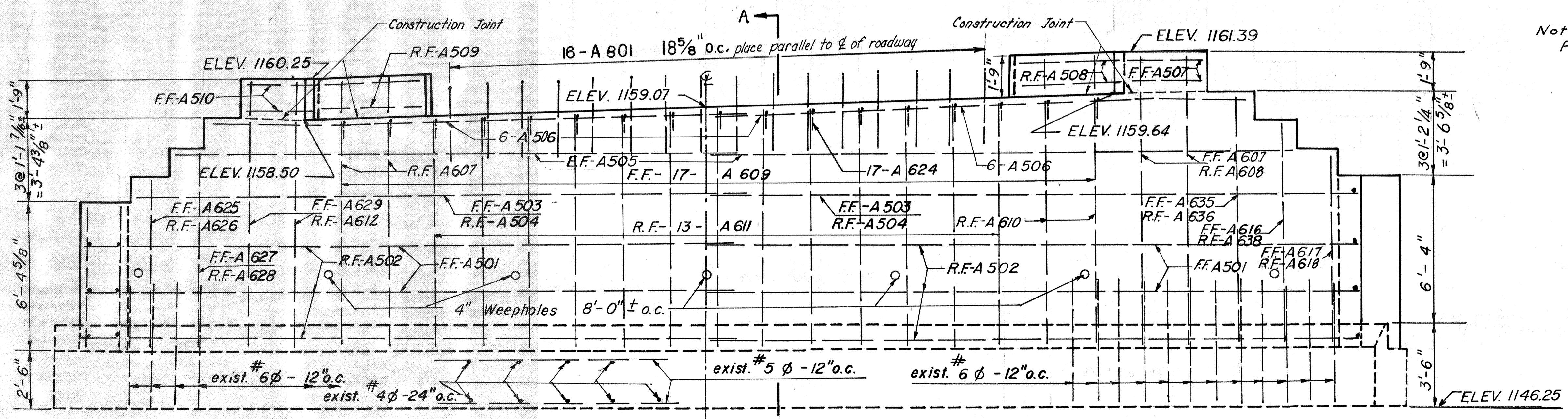
FORWARD ABUTMENT PLAN

Use Deck Waterproofing on Beam Ends. The cost of the work associated with the placement shall be included under Item: 512 - Type 'D' Waterproofing.



Cross Section of Abutment

Note:
For Section A-A see Sheet No. 4.



ELEVATION FORWARD ABUTMENT

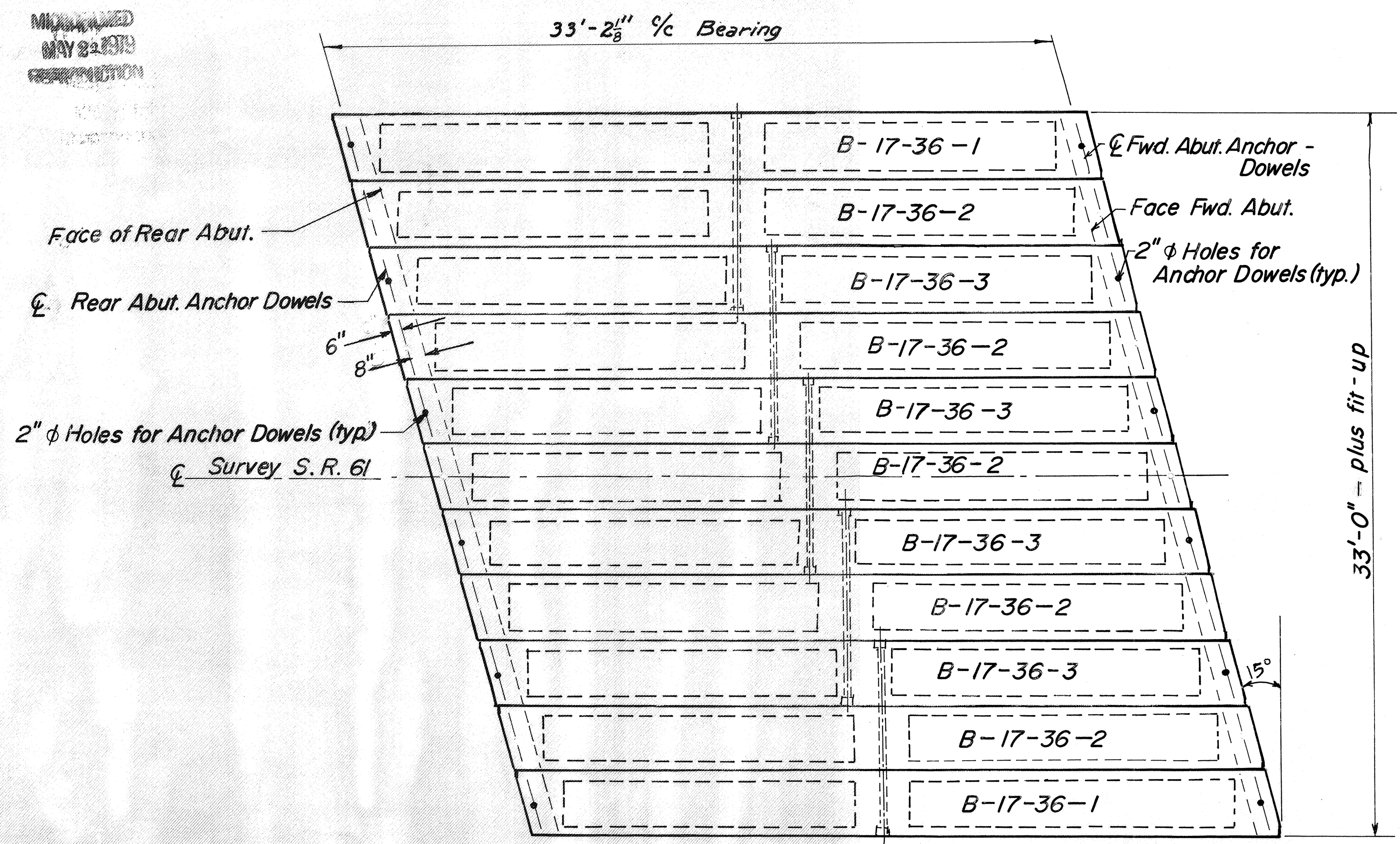
Note:
F.F. - Front Face
R.F. - Rear Face
E.F. - Each Face

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION DISTRICT 3							5/6
FORWARD ABUTMENT DETAILS							
BRIDGE NO. CRA-61-0687 OVER PARAMOUR CREEK							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
T.F.F.	H.H.	H.H.		W.J.U.	6-26-75		

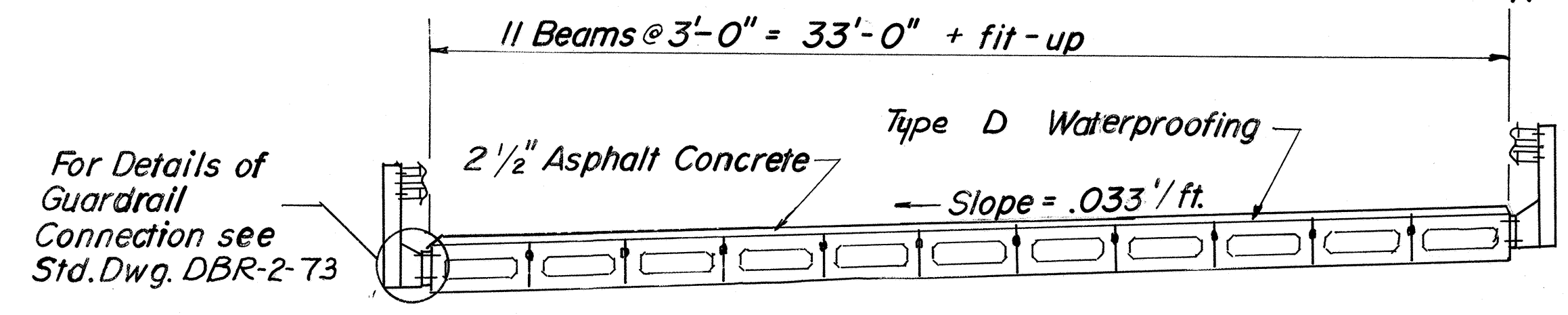
REVISIONS
MAY 20 1970

FED. RD. DIVISION	STATE	PROJECT	6 6
2	OHIO		

CRAWFORD COUNTY
CRA-61-04.98

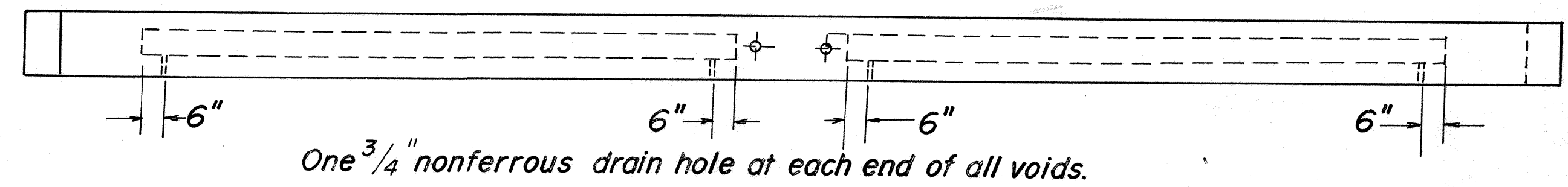


PRESTRESSED BOX BEAM LAYOUT

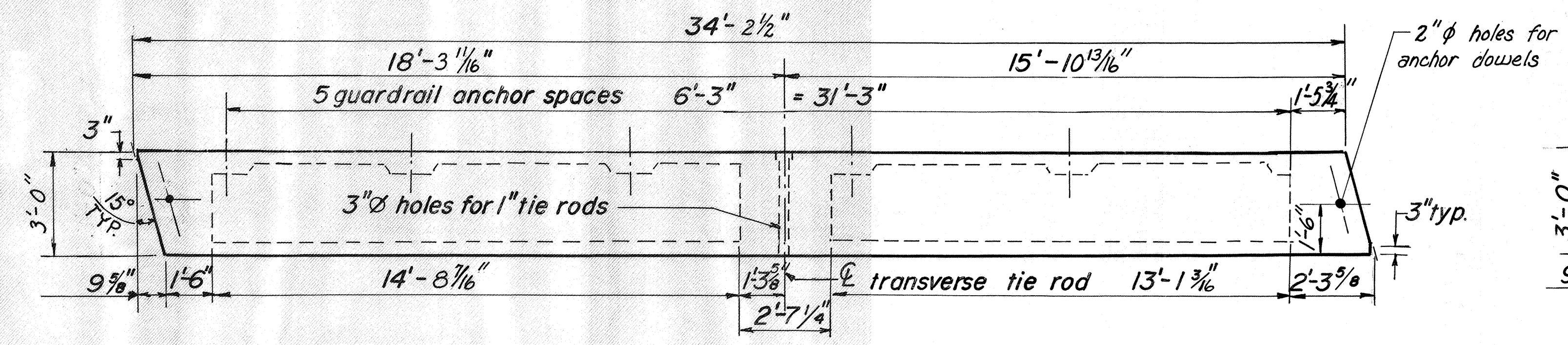


TRANSVERSE CROSS SECTION

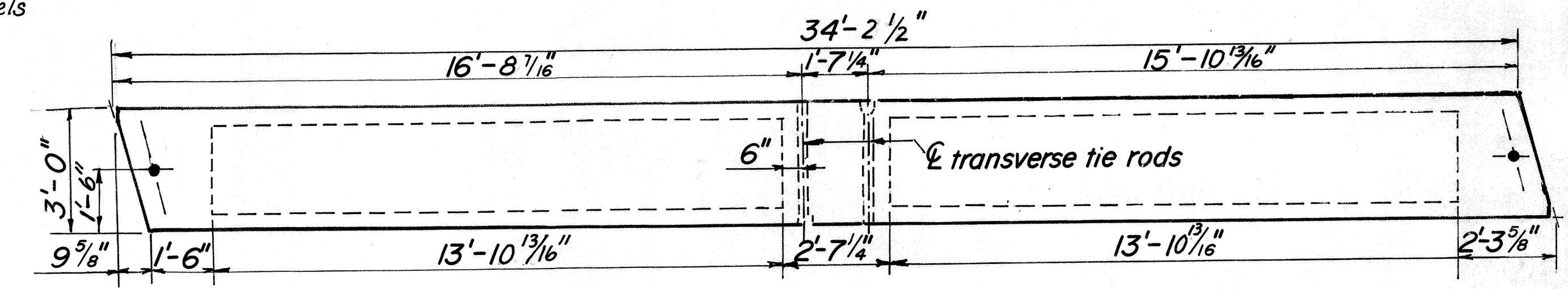
Note:
Top surface of beams shall be textured to provide an uniform surface with a gritty texture.
For Details not shown see Std. Dwg. PSBD. 1-71.
Anchor inserts of a type different from that shown on Std. Dwg. DBR-2-73 may be used if approved by the Director.



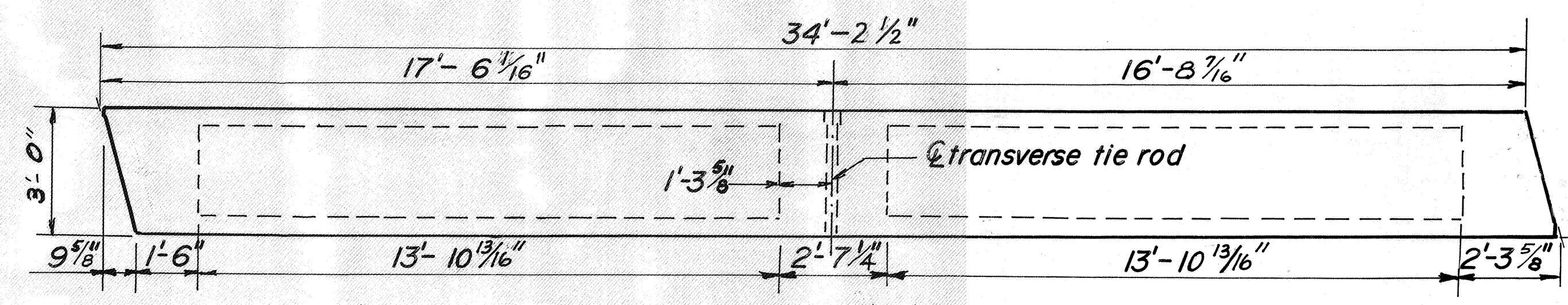
GENERAL ELEVATION



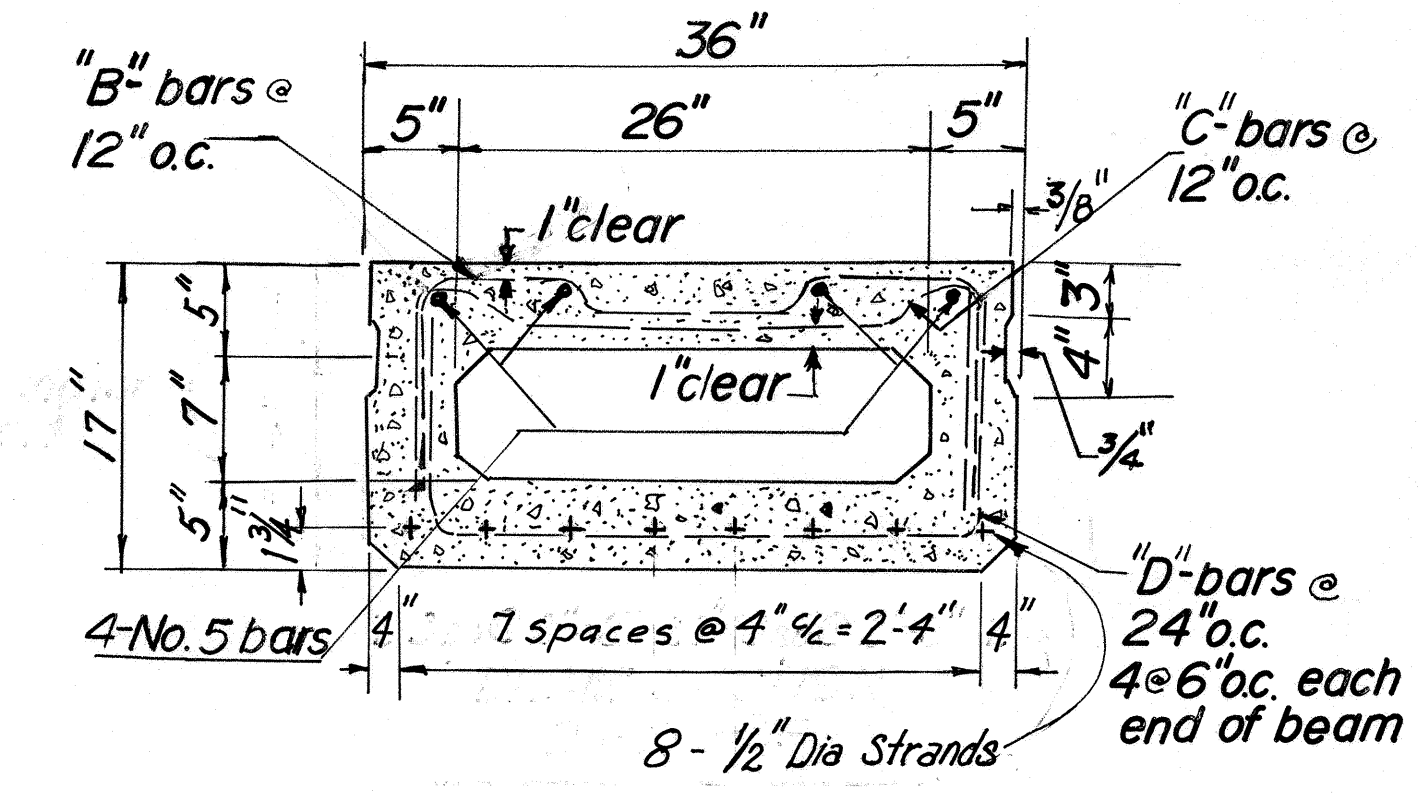
PLAN B-17-36-1



PLAN B-17-36-3



PLAN B-17-36-2



STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION DISTRICT 3						6 / 6
SUPERSTRUCTURE DETAILS						
BRIDGE NO CRA-61-06 87 OVER PARAMOUR CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.F.F.	H.H.	H.H.		W.J.J.	6-26-75	